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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,382	10/10/2001	Renatus Josephus Van Der Vleuten	NL 000564	2379

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EXAMINER	
PATEL, NIRAV B	

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/975,382	VAN DER VLEUTEN ET AL.	
	Examiner	Art Unit	
	Nirav Patel	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1(10/10/2001)*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed on 10/10/2001.

2. Claims 1-20 are under examination.

Priority

3. The application has been filed under title 35 U.S.C.119 (e) claiming priority to provisional applications 60,239,345 filed on 10/11/2000 and 60,239,659 filed on 10/12/2000.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-8, 10, 12, 19 and 20 are rejected 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 1, recites "a method of coding a multi-media object, the method comprising the steps of: coding the object to obtain a bit-stream, and adding quality information to the bit-stream, which quality information indicates a quality of the object in relation to a given position in (or a given part of) the bit-stream". Claim 1 is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and

tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Therefore, claim 1 recites non-statutory subject matter.

Claims 2-8 depend on claim 1, therefore they are rejected with the same rationale applied against claim 1 above.

As per claim 10, recites "a method of transmitting at least one multi-media object, the method comprising the steps of: coding the object to obtain a bit-stream, adding quality information to the bit-stream, which quality information indicates a quality of the object in relation to a given position in (or a given part of) the bit-stream, and transmitting the bit-stream in which the quality information has been added". Claim 10 is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Therefore, claim 10 recites non-statutory subject matter.

As per claim 12, recites "a method of receiving at least one bit-stream representing a multi-media object in which bit-stream quality information has been added, the quality information indicating a quality of the object in relation to a given position in (or a given part of) the bit-stream, the method comprising the steps of: extracting the quality information from the bit-stream; decoding the bit-stream to obtain a decoded multi-media object; and processing the multi-media object in dependence on the extracted quality". Claim 12 is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application

producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Therefore, claim 12 recites non-statutory subject matter.

As per claim 19, recites "a bit-stream representing a multi-media object in which bit-stream quality information has been added, the quality information indicating a quality of the object in relation to a given position in (or a given part of) the bit-stream. Claim 19 is descriptive material per se and such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. Therefore, claim 19 recites non-statutory subject matter.

As per claim 20, recites "a storage medium on which a signal has been stored. Claim 20 is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Therefore, claim 20 recites non-statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 7, 10, 13, 14 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Shin et al (US Patent No. 6,493,387).

As per claim 1, Shin discloses:

coding the object **[*col.1 line 51* "moving picture"]** to obtain a bit-stream **[*col. 2 lines 2-4* "a single base layer and at least one enhancement layer;(b) coding the shape and texture information of the base layer to generate a base layer bitstream"]**, and adding quality information (i.e. to quantify the quality, preferably SNR(signal-to-noise ratio values are used) to the bit-stream **[*col. 5 lines 1-5* "As further information related to the SNR scalable architecture is added to the BL, the SNR of the BL gradually increases, so that the picture quality of images is sequentially enhanced as shown in BSNR03, BSNR14 and BSNR25" *col. 6 lines 6-8* "the first SNR scalable architecture generator 126 generates bitstreams BSL(0), BSL(1), . . . , BSL(n-1) and BLS(n) based on frequency bands", *col. 6 lines 50-54* "referring to FIG. 2, the bit streams BSL(0), BSL(1), . . . , BSL(n-1) and BSL(n) are sequentially added to the base layer bitstream BL, thereby constructing BSNR(0), BSNR(1), . . . , BSNR(n-1) and BSNR(n)"]**, which quality information indicates a quality of the object in relation to a given position in (or a given part of) the bit-stream **[*col. 1 lines 52-54* "SNR scalable coding function, which can variably determine picture quality in a predetermined space"]**.

As per claim 2, the rejection of claim 1 is incorporated and further Shin discloses:

the coding step is a scalable coding(i.e. spatially scalable architecture) step to obtain a scalable bit-stream **[*col. 2 lines 3-4* "coding the shape and texture information of the base layer to generate a base layer bitstream"].**

As per claim 3, the rejection of claim 1 is incorporated and further Shin discloses:

the quality information relates to an object reproduction quality **[*col. 1 lines 52- 57* "SNR scalable coding function, which can variably determine picture quality in a predetermined space, as well as a spatially scalable coding function, so as to transmit data in different ways depending on the limitations of a transmission line or the receiving performance of a receiving terminal (i.e. where picture will be reproduce)"].**

As per claim 4, the rejection of claim 3 is incorporated and further Shin discloses:

the quality information is based on a signal to noise ratio value **[Fig. 2 SNR scalable architecture col.1 lines 52-54 "SNR** (signal to noise ratio) **scalable coding function, which can variably determine picture quality in a predetermined space"].**

As per claim 5, the rejection of claim 1 is incorporated and further Shin discloses:

quality tags (i.e. quality information) are added at given locations in the bit-stream, indicating a quality of the object when the bit-stream is truncated just after (or alternatively just before) the given location in the bit-stream **[*col. 5 lines 1-10* "As further information related to the SNR scalable architecture is added to the BL, the SNR of the BL gradually increases, so that the picture quality of images is sequentially enhanced as shown in BSNR03, BSNR14 and BSNR25"].**

As per claim 7, the rejection of claim 2 is incorporated and further Shin discloses:

the scalable bit-stream includes several layers and wherein respective layers include respective quality information **[*col. 2 lines 1-3* "spatially scalable architecture including a single base layer and at least one enhancement layer" *col. 5 lines 17-22* "In the embodiment of FIG. 2, the spatially scalable architecture is a two-layer architecture composed of a base layer and an enhancement layer, but the scope of the present invention is not restricted to this embodiment and may include more than two layers"].**

As per claim 10, is rejected for the same reason set forth in the rejection of claim 1 above and further Shin discloses:

transmitting the bit-stream in which the quality information has been added **[*col. 1 lines 51-56* "to provide a moving picture coding/decoding method and apparatus for providing a SNR scalable coding function, which can variably determine picture quality in a predetermined space, as well as a spatially scalable coding function, so as to transmit data in different ways depending on the limitations of a transmission line"].**

As per claim 13, is a device claim corresponds to method claim 1 and is rejected for the same reason set forth in the rejection of claim 1 above.

As per claim 14, the rejection of claim 13 is incorporated and further Shin discloses:

A transmitter (to transmit a data) comprising a device **[*col. 1 lines 51-60* "to provide a moving picture coding/decoding method and apparatus for providing a SNR scalable coding function, which can variably determine picture quality in a predetermined space, as well as a spatially scalable coding function, so as to transmit data in different ways depending on the limitations of a transmission line" "The method and apparatus also provide scalable coding of an arbitrary shaped object as well as a quadrilateral picture, thereby providing various qualities of service].**

As per claim 19, is a bitstream (data structure) claim correspond to method claim 1 and is rejected for the same reason set forth in the rejection of claim 1 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6, 9, 11, 12, 15-17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al (US Patent No. 6,493,387) and further in view of Chen et al (US 6,658,057).

As per claim 6, the rejection of claim 1 is incorporated. Shin does not disclose a scalable coding standard.

However, Chen discloses scalable coding standard **[*col. 2 lines 59-61* "a device which receives a version of the video image which has been digitally encoded and compressed according to MPEG standards"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the

teaching of Shin to incorporate the information in a given standard. The modification would be obvious because one of ordinary skill in the art would be motivated so that data would not be exclusive to certain device or equipment for processing.

As per claim 9, Shin discloses:

receiving the at least one bit-stream 9 **[Fig. 3 VLD receive the bitstream as input at receiving terminal];**

extracting the quality information from the bit-stream **[*col. 6 lines 64-67, col. 7 lines 1-3* "The VLD 210 variable length decodes a bitstream that has been coded by an apparatus for coding video input data including the shape information and inner texture information of an object based on a spatially scalable architecture and a SNR scalable architecture, and classifies the bitstream into a base layer bitstream and an enhancement layer bitstream"** ***col. 7 lines 12-14*** **"The first shape decoder 221 shape decodes coded shape information, which is contained in the base layer bitstream, to reconstruct base layer shape information"].**

Shin doesn't disclose that transcoding the bit stream and provide the desired combination of bit-rate and quality.

However, Chen discloses transcoding or truncating the at least one bit-stream **[*col. 3 lines 19-23* "When input bitstream 16 enters MPEG transcoder 10, it first encounters the decoding section 12 where the compressed and encoded video image information is decoded and decompressed to provide a reconstructed video image 15"** ***col. 3 lines 23-27*** **"The reconstructed video image**

15 then passes through the encoding section 14 of transcoder 10 where it is re-encoded and re-compressed to provide the output bitstream 17 at the desired output bit-rate"] in the case a desired combination of bit-rate and quality of the at least one bit-stream differs from a current combination of bit-rate and quality of the at least one received bit-stream **[*col. 3 lines 6-8* "Transcoder 10 changes the bit-rate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams"];**

providing the at least one bit-stream at the desired combination of bit-rate and quality **[*col. 3 lines 23-27* "The reconstructed video image 15 then passes through the encoding section 14 of transcoder 10 where it is re-encoded and re-compressed to provide the output bitstream 17 at the desired output bit-rate"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the teaching of Shin to transcode the datastream and provide the desired bit rate. The modification would be obvious because one of ordinary skill in the art would be motivated to use transcoder for modifying the digital data to change the bit-rate of the encoded signal **[Chen, *col. 1 lines 33-35*].**

As per claim 11, is rejected for the same reason set forth in the rejection of claim 9 above and further Chen discloses:

decoding the at least one bit-stream at the desired combination of bit-rate and quality **[col. *3 lines 19-23* "When input bitstream 16 enters MPEG transcoder 10, it first**

encounters the decoding section 12 where the compressed and encoded video image information is decoded and decompressed to provide a reconstructed video image 15" ***col. 3 lines 6-8*** **"Transcoder 10 changes the bit-rate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chen into the teaching of Shin to decode the datastream and provide the desired bit rate. The modification would be obvious because one of ordinary skill in the art would be motivated to change the bitrate of the bitstream to accommodate the different bit-rate capacities of the input and output bitstreams, and acts as smooth transition for a bitstream from one transmission network to another and thus from one bit-rate to another bit-rate **[Chen,** ***col. 3 lines 6-10*****].**

As per claim 12, is rejected for the same reason set forth in the rejection of claim 11 above and further Shin discloses:

extracting the quality information from the bit-stream **[*col. 6 lines 64-67 col. 7 lines 1-3* The VLD 210 variable length decodes a bitstream that has been coded by an apparatus for coding video input data including the shape information and inner texture information of an object based on a spatially scalable architecture and a SNR scalable architecture, and classifies the bitstream into a base layer bitstream and an enhancement layer bitstream *col. 7 lines 12-14* The first shape decoder**

221 shape decodes coded shape information, which is contained in the base layer bitstream, to reconstruct base layer shape information];

decoding the bit-stream to obtain a decoded multi-media object **[*col. 6 lines 59-63* "decoding a bitstream that has been coded based on a spatially scalable architecture and a SNR scalable architecture according to the present invention, includes a variable length decoder (VLD) 210, a base layer decoder 220 and an enhancement layer decoder 230"];** and

processing the multi-media object in dependence on the extracted quality **[Fig. 3 *col. 7 lines 11-24* "The first shape decoder 221 shape decodes coded shape information, which is contained in the base layer bitstream, to reconstruct base layer shape information. The first SNR scalable architecture decoder 223 sequentially inverse frequency transforms bitstreams selected from a SNR scalable architecture contained in the base layer bitstream and sequentially adds the inverse frequency transformed bitstreams to the base layer texture information, thereby improving the picture quality of the base layer"].**

As per claim 15, is a device claim corresponds to method claim 9 and is rejected for the same reason set forth in the rejection of claim 9 above.

As per claim 16, the rejection of claim 15 is incorporated and further Chen discloses:

a receiver (to receive a data) comprising a controller **[Fig. 2 *col. 2 lines 59-60* "an MPEG transcoder is a device which receives a version of the video image which has been digitally encoded"].**

As per claim 17, is a device claim corresponds to method claim 12 and is rejected for the same reason set forth in the rejection of claim 12 above.

As per claim 18, the rejection of claim 15 is incorporated and further Chen discloses that a multiplexer or network node (truncator/transcoder and control unit together may constitute part of a multiplexer, bit-rate control unit, network node, etc.) comprising a controller (as claimed in claim 15) **[Fig. 2 *col. 2 lines 59-63* "an MPEG transcoder is a device which receives a version of the video image which has been digitally encoded and compressed according to MPEG standards, and decodes and reencodes the video to match the characteristics of the new transmission medium"].**

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al (US Patent No. 6,493,387) and further in view of Girod et al (US Patent No. 5,809,139).

As per claim 8, the rejection of claim 1 is incorporated and Shin doesn't disclose that the bitstream is encrypted.

However, Girod discloses the bit-stream is encrypted and the quality information is unencrypted **[*col. 5 lines 25-39* "The signal input to the digital watermarking apparatus is divided into its separate components, those being the DCT coefficients for the prediction error portion of the signal (or for intraframe coded data), the motion vectors (if any), and the header/side information of the bitstream. The header/side information** (i.e. quality information) **is simply passed through to the output of the watermarking apparatus 26** (i.e. unencrypted). **The prediction error signal, however, is modified to embed a watermark** (i.e. encrypted). **The prediction error data is the portion of the bitstream** (i.e. bitstream) **in which the watermark data is embedded" *col. 3 lines 1-4* "In one alternative embodiment of the invention, an encryption system is used in conjunction with the watermarking device, such that the signal is watermarked and encrypted prior to being transmitted to the receiver"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Girod into the teaching of Shin to encrypt (i.e. watermark) the datastream. The modification would be obvious because one of ordinary skill in the art would be motivated to achieve copyright protection with the addition of a watermark to the video signal and secure transmission **[Girod, *col. 1 lines 16-17*].**

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al (US Patent No. 6,493,387) and further in view of Park et al (US Patent No. 6,148,288).

As per claim 20, the rejection of claim 19 is incorporated and Shin doesn't disclose that storage medium on which a signal has been stored.

However, Park discloses a storage medium on which a signal (as claimed in claim 19) has been stored **[*col. 1 lines 35-40* "an audio signal storage/restoration method for converting an analog signal into digital PCM (Pulse Code Modulation) data through sampling and quantization, storing the converted signal in a recording/storage medium such as a compact disc or digital audio tape and then reproducing the stored signal"** ***col. 5 lines 23-25*** **"storage media such as magnetic storage media (e.g., ROM's, floppy disks, hard disks, etc.), optically readable media (e.g., CD-ROMs, DVDs, etc.), hybrid formats (magneto optical disks)"].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teaching of Park into the teaching of Shin to use storage medium to store the signal. The modification would be obvious because one of ordinary skill in the art would be motivated to do so because the digital storage/restoration method solves deterioration in quality and considerably improves the quality, in contrast to the conventional analog method **[Park, *col.1 lines 41-44*].**

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al (US Patent No. 6,789,123) discloses A system and process for streaming delivery of dynamically scalable media content over a network, such as, for example, the Internet or a wireless network, while automatically accounting for both fluctuating network bandwidth and packet loss. A system of rate-distortion based packet selection and organization is used to maximize the quality of streamed media files that have been encoded using any conventional scalable encoder.

Wan et al (US Patent No. 6,580,754) discloses an optimal system for determining whether simulcast coding (400) or spatial scalability coding (100) should be used to encode video for clients with a specific communication link.

Yamaguchi et al (US Patent No. 6,256,346) discloses n encoding apparatus includes an encoder for encoding an alpha-map signal for discriminating a background from an object of an input picture in motion compensation prediction (MV)+transform encoding which uses MV in a domain of each of N.times.N transform coefficients (n), a transform circuit for transforming Pf into n in accordance with the alpha-map signal. This encoding apparatus realizes SNR scalability in M layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav Patel whose telephone number is 571-272-5936. The examiner can normally be reached on 8 am - 4:30 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NBP

6/15/05

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